

Abstract

Use an ellipsoidal mirror that matches the wavelength of soft X-ray and thereby improves light-focusing efficiency, to increase the energy density of soft X-ray and process and/or refine works made of inorganic materials, etc., at an accuracy of several nm by using only soft X-ray, without irradiation with both patterned soft X-ray (patterned beam) and processing laser light. Focus soft X-ray 14 emitted from a light source part 7 to high energy density using an ellipsoidal mirror 15 and irradiate a work 19 with the focused light in a specified pattern in order to process only the area of the work 19 that has been irradiated with soft X-ray 14 in the specified pattern.